Work Plan

Evaluation of the Potential Impacts of a Tornado

on the ROD-Selected Remedy for West Lake Landfill OU-1

Introduction

In a July 3, 2013 letter, the Environmental Protection Agency (EPA) requested the West Lake Landfill Operable Unit-1 (OU-1) Respondents to provide a discussion of the effects of a tornado on the integrity of the remedial action to be taken at the site. EPA indicated that it was interested in a qualitative assessment.

Approach

Per EPA's direction, evaluation of the potential impacts of a tornado on the integrity or performance of the Record of Decision (ROD)-selected remedy will be performed in a qualitative manner. Therefore, the evaluation will be based on review of published scientific and government agency reports and application of basic scientific principals and processes.
The evaluation will address the following items:

1. Discussion of types of processes and damages associated with tornado impacts;
2. Description of the ROD-selected remedy;
3. Identification of possible tornado-related ARARs; and
4. Description of possible impacts of a tornado on the integrity of the ROD-selected remedy.

Evaluation of the potential impacts of a tornado on the integrity of the ROD-selected remedy will be based on the following types of information:

1. Technical or government agency reports of tornado impacts at other landfills (if available);
2. Information regarding actual tornado impacts at other Republic Services Landfills (e.g., the Roxanna Landfill, Roxanna, IL in 2013);
3. Information regarding vegetation destruction, soil erosion or other damages caused by tornados at non-landfill sites (e.g., Joplin, MO in 2011);

4. Information regarding the design of tornado-resistant structures such as tornado and storm shelters as an analogue for potential impacts to the ROD-selected remedy; and

5. ARARs that could be implicated at a tornado-impacted landfill.

Deliverables

1. Interim Deliverable – A memorandum will be prepared summarizing the results of the evaluation of potential impacts of a tornado on the ROD-selected remedy for OU-1 and any additional ARARs that could be implicated in a tornado impact after construction of the ROD-selected remedy.

2. SFS revisions – an evaluation of the long-term effectiveness and permanence of the ROD-selected remedy, specifically, the evaluation of the adequacy and reliability of controls will be updated to include the potential impacts of a tornado at the Site and any ARARs raised by such an impact.

Schedule

It is anticipated that collecting available information on actual tornado impacts, evaluating potential impacts of a tornado on the integrity of the ROD-selected remedy, reviewing potential additional ARARs, and preparing a summary memorandum will take approximately six weeks after receipt of EPA approval of this work plan. (Please note this schedule may be revised depending upon the status of other activities simultaneously requested by EPA.)

EMSI will prepare a Supplemental SFS report that includes the results of the tornado evaluation after EPA comments on the interim tornado deliverable and as part of a comprehensive Supplemental SFS which addresses the results of the various other additional tasks EPA has requested.

References

Engineering Management Support, Inc. (EMSI), 2011, Supplemental Feasibility Study, Radiologically-Impacted Material Excavation Alternative Analysis, West Lake Landfill Operable Unit-1, December 16.

Federal Emergency Management Agency (FEMA), 2008, Taking Shelter From the Storm – Building a Safe Room for Your Home or Small Business, FEMA P-320, August.

FEMA, 2007, Storm shelters: Selecting Design Criteria, FEMA DR 1699 RA 2, May.

FEMA, 2007, Storm shelters: Selecting Design Criteria, FEMA DR 1679 RA 2, February.

U.S. Department of Homeland Security, 1998, In-Residence and Small Business Safe Room Designs, October.

U.S. Environmental Protection Agency (EPA), 2008, Record of Decision – West Lake Landfill Site, Bridgeton Missouri, Operable Unit 1, May.